

AMENDMENTS TO THE CLAIMS

Claims 1, 3-10, and 17-79 are pending. No claims are amended, claims 2 and 11-16 were cancelled without prejudice or disclaimer, and claims 80 – 83 were withdrawn from consideration. New claims 84 and 85 are added, support for which can be found at least in paragraphs 20-23, 41-42, 66-70, 77-79, 80-81 and 83-87. No new matter is added. Therefore, upon entry of this amendment, which is respectfully requested, claims 1, 3-10, 17-79, 84 and 85 will be pending.

The full text of the presently pending claims is set forth in the Listing of Claims below. This Listing of Claims is intended to replace all prior versions, and listings, of claims in the application.

Listing of Claims:

- 1 1. (Previously Presented) A method for routing messages from one or more sending services
2 to one or more recipient services across a message interchange network, said message
3 interchange network being built on an open platform overlaying a public network, wherein at
4 least some of the one or more sending services and the one or more recipient services are
5 managed by different organizational entities, and wherein each sending service and recipient
6 service is accessible according to properties and permissions associated with each of the sending
7 services and recipient services, comprising:
8 (a) receiving a message from a sending service, said message including a header element
9 and at least one of: a body element including one or more documents that a sending service is
10 sending to a recipient service, and an attachment including one or more documents that a sending
11 service is sending to a recipient service;
12 (b) determining a route path for delivery of said message to said one or more recipient
13 services, said route path including one or more in-transit services, said determining being based
14 on an evaluation of two or more routing scripts selected from the group consisting of: a routing
15 script defined by a sending service, a routing script defined by a recipient service, and one or
16 more routing scripts defined by one or more in-transit services, such that each service is capable
17 of independently affecting said determining of said route path during a logical routing of said
18 message represented by said evaluation; and
19 (c) delivering said message to an in-transit service in said route path, wherein said in-

20 transit service performs an identifiable operation on said message as said message travels from a
21 sending service to a recipient service, the identifiable operation altering the content of the
22 message to ensure that the message has the proper format for the recipient service.

1 2. (Cancelled)

1 3. (Previously Presented) The message routing method of claim 1, wherein said header
2 element is an extensible markup language header element.

1 4. (Previously Presented) The message routing method of claim 1, wherein said one or more
2 documents in said body element and said one or more documents in said attachment can
3 accommodate any type of data.

1 5. (Original) The message routing method of claim 4, wherein said data includes extensible
2 markup language data.

1 6. (Original) The message routing method of claim 4, wherein said data includes text data.

1 7. (Original) The message routing method of claim 4, wherein said data includes binary data.

1 8. (Previously Presented) The message routing method of claim 1, wherein said message
2 further includes routing and route trace elements.

1 9. (Original) The message routing method of claim 1, wherein said receiving is based on the
2 Simple Object Access Protocol.

1 10. (Original) The message routing method of claim 1, wherein said receiving includes
2 receiving said message from a party that sends said message on behalf of a sender.

1 11. (Cancelled)

2 12. (Canceled)

1 13. (Canceled)

2 14. (Canceled)

1 15. (Canceled)

1 16. (Canceled)

1 17. (Previously Presented) The message routing method of claim 1, wherein said determining
2 is recursive.

1 18. (Previously Presented) The message routing method of claim 1, wherein said determining
2 occurs prior to physical delivery of said message.

1 19. (Previously Presented) The message routing method of claim 1, wherein said determining
2 occurs dynamically during logical and physical delivery of said message.

3 20. (Previously Presented) The message routing method of claim 1, wherein a routing script
4 defines a procedure that determines an existence of one or more attributes of the message.

1 21. (Previously Presented) The message routing method of claim 1, wherein a routing script
2 defines a procedure based on pattern matching.

1 22. (Previously Presented) The message routing method of claim 1, wherein a routing script
2 defines a procedure that compares one or more attributes of a message to a reference value.

1 23. (Previously Presented) The message routing method of claim 1, wherein a routing script is
2 based on a routing rule, said routing rule including a condition and one or more actions.

1 24. (Original) The message routing method of claim 23, wherein said condition is one of an
2 equals, not-equals, equals-one-of, less-than, greater-than, and exists operators.

1 25. (Original) The message routing method of claim 23, wherein said condition is a
2 combination of one or more conditions.

1 26. (Original) The message routing method of claim 25, wherein said one or more conditions
2 are combined using one or more of an AND, OR, XOR, and NOT operators.

1 27. (Original) The message routing method of claim 1, wherein said delivering includes
2 pushing said message to said in-transit service.

1 28. (Original) The message routing method of claim 1, wherein said delivering includes
2 delivering said message upon a polling action by said in-transit service.

1 29. (Original) The message routing method of claim 1, wherein said delivering includes
2 delivering said message to said in-transit service for one of a data transformation operation, an
3 enrichment operation, a cross-reference ID mapping operation, a filtering operation, and a credit
4 scoring operation.

1 30. (Original) The message routing method of claim 1, further comprising logging usage,
2 status, and billing information after processing said message.

1 31. (Original) The message routing method of claim 1, further comprising delivering said
2 message to said recipient service after said message has been routed to all in-transit services in
3 said route path.

1 32. (Previously Presented) A message routing system, comprising:
2 a message routing network built on an open platform overlaying a public network, said
3 message routing network enabling routing of messages between a sending service and one or
4 more recipient services, wherein at least some of the one or more sending services and the one or
5 more recipient services are managed by different organizational entities, said message routing
6 network further enabling inclusion of a plurality of in-transit services into said message routing
7 network, wherein an in-transit service can be selectively included in a routing for a message
8 based upon an identifiable type of processing that said in-transit service can perform on said
9 message, a route path defining delivery of said message to said one or more recipient services,
10 said route path including one or more of the in-transit services, said route path determined based
11 on an evaluation of two or more routing scripts selected from the group consisting of: a routing
12 script defined by a sending service, a routing script defined by a recipient service, and one or
13 more routing scripts defined by one or more in-transit services, such that each service is capable
14 of independently affecting said determining of said route path during a logical routing of said
15 message represented by said evaluation.

- 1 33. (Original) The message routing system of claim 32, wherein said in-transit service
2 performs one of a data transformation operation, an enrichment operation, a cross-reference ID
3 mapping operation, a filtering operation, and a credit scoring operation.
- 1 34. (Original) The message routing system of claim 32, wherein an in-transit service is
2 included in said routing based on a routing script.
- 1 35. (Previously Presented) The message routing system of claim 34, wherein said route path is
2 defined by the sending service.
- 1 36. (Previously Presented) The message routing system of claim 34, wherein said route path is
2 defined by the recipient service.
- 1 37. (Previously Presented) The message routing system of claim 34, wherein said route path is
2 defined by the in-transit service.
- 1 38. (Previously Presented) The message routing system of claim 34, wherein said route path is
2 defined by the sending service, the recipient service, and the in-transit service.
- 1 39. (Original) The message routing system of claim 34, wherein said routing is determined
2 recursively.
- 1 40. (Original) The message routing system of claim 34, wherein said routing is determined
2 prior to physical delivery of said message.
- 1 41. (Original) The message routing system of claim 34, wherein said routing is determined
2 during logical and physical delivery of said message.
- 1 42. (Original) The message routing system of claim 34, wherein a routing script defines a
2 procedure that determines an existence of one or more attributes of the message.
- 1 43. (Original) The message routing system of claim 34, wherein a routing script defines a
2 procedure based on pattern matching.
- 1 44. (Original) The message routing system of claim 34, wherein a routing script defines a

2 procedure that compares one or more attributes of a message to a reference value.

1 45. (Original) The message routing system of claim 34, wherein a routing script is based on a
2 routing rule, said routing rule including a condition and one or more actions.

1 46. (Original) The message routing system of claim 45, wherein said condition is one of an
2 equals, not-equals, equals-one-of, less-than, greater-than, and exists operators.

1 47. (Original) The message routing system of claim 45, wherein said condition is a
2 combination of one or more conditions.

1 48. (Original) The message routing system of claim 47, wherein said one or more conditions
2 are combined using one or more of an AND, OR, XOR, and NOT operators.

1 49. (Original) The message routing system of claim 32, wherein said message routing network
2 provides a transport level messaging service.

1 50. (Original) The message routing system of claim 32, wherein said message is delivered to
2 said recipient service after said message has been routed to all in-transit services in said route
3 path.

1 51. (Previously Presented) A computer program product, stored on a machine-readable
2 medium, for routing messages from one or more sending services to one or more recipient
3 services across a message interchange network, said message interchange network being built on
4 an open platform overlaying a public network, wherein at least some of the one or more sending
5 services and the one or more recipient services are managed by different organizational entities,
6 and wherein each sending service and recipient service is accessible according to properties and
7 permissions associated with each of the sending services and recipient services, comprising
8 instructions operable to cause a computer to:
9 receive a message from a sending service, said message including a header element and at
10 least one of: a body element including one or more documents that a sending service is sending
11 to a recipient service, and an attachment including one or more documents that a sending service
12 is sending to a recipient service;
13 determine a route path for delivery of said message to said one or more recipient services,

14 said route path including one or more in-transit services, said determining being based on an
15 evaluation of two or more routing scripts selected from the group consisting of: a routing script
16 defined by a sending service, a routing script defined by a recipient service, and one or more
17 routing scripts defined by one or more in-transit services, such that each service is capable of
18 independently affecting said determining of said route path during a logical routing of said
19 message represented by said evaluation; and
20 deliver said message to an in-transit service in said route path, wherein said in-transit
21 service has been created to perform an identifiable operation on said message as said message
22 travels from a sending service to a recipient service, the identifiable operation altering the
23 content of the message to ensure that the message has the proper format for the recipient service.

1 52. (Previously Presented) A message routing network method, comprising:
2 (a) receiving a registration request from a service for inclusion in a message routing
3 network, said message routing network being built on an open platform overlaying a public
4 network, said service being operative to provide a data operation according to properties and
5 permissions associated with said service;
6 (b) including said service in a directory of services, said directory of services enabling
7 users of said message routing network to define at least a portion of a desired data processing on
8 a message; and
9 (c) determining a route path for delivery of a message to one or more recipient services,
10 said route path including one or more in-transit services, said determining being based on an
11 evaluation of two or more routing scripts selected from the group consisting of: a routing script
12 defined by a sending service, a routing script defined by a recipient service, and one or more
13 routing scripts defined by one or more in-transit services, such that each service is capable of
14 independently affecting said determining of said route path during a logical routing of said
15 message represented by said evaluation.

1 53. (Original) The message routing network method of claim 52, wherein said service
2 provides a data transformation service.

1 54. (Original) The message routing network method of claim 52, wherein said service
2 provides a data enrichment service.

1 55. (Original) The message routing network method of claim 52, wherein said service

2 provides a cross-reference service.

1 56. (Original) The message routing network method of claim 52, wherein said service
2 provides a filtering service.

1 57. (Original) The message routing network method of claim 52, wherein said service
2 provides a credit scoring service.

1 58. (Original) The message routing network method of claim 52, wherein a service is selected
2 from said directory of services by a sending service.

1 59. (Original) The message routing network method of claim 52, wherein a service is selected
2 from said directory of services by a recipient service.

1 60. (Original) The message routing network method of claim 52, wherein a service is selected
2 from said directory of service engines by an in-transit service.

1 61. (Original) The message routing network method of claim 52, further comprising storing a
2 script defined by one of a sending service, a recipient service, and an in-transit service, said
3 script mapping an invocation of a first service to an invocation of a second service, wherein
4 contexts of said invocations are managed by said message routing network.

1 62. (Original) The message routing network method of claim 61, wherein said script defines a
2 procedure for enabling determination of at least part of a routing of a message between services.

1 63. (Previously Presented) A computer program product, stored on a machine-readable
2 medium, comprising instructions operable to cause a computer to:
3 receive a registration request from a service for inclusion in a message routing network,
4 said message routing network being built on an open platform overlaying a public network, said
5 service being operative to provide a data operation according to properties and permissions
6 associated with said service;
7 include said service in a directory of services, said directory of services enabling users of
8 said message routing network to define at least a portion of a desired data processing on a
9 message; and
10 determine a route path for delivery of a message to one or more recipient services, said

11 route path including one or more in-transit services, said determining being based on an
12 evaluation of two or more routing scripts selected from the group consisting of: a routing script
13 defined by a sending service, a routing script defined by a recipient service, and one or more
14 routing scripts defined by one or more in-transit services, such that each service is capable of
15 independently affecting said determining of said route path during a logical routing of said
16 message represented by said evaluation.

1 64. (Previously Presented) A message routing system, comprising:
2 a message routing network having an interface that enables a plurality of services to post
3 messages to and receive messages from said message routing network, said message routing
4 network being built on an open platform overlaying a public network, wherein at least some of
5 the one or more sending services and the one or more recipient services are managed by different
6 organizational entities, and wherein each sending service and recipient service is accessible
7 according to properties and permissions associated with each of the sending services and
8 recipient services, at least a portion of said plurality of services providing a menu of data
9 operations that can be selectively applied to a message traversing said message routing network,
10 a route path defining delivery of a message to said one or more recipient services, said route path
11 including one or more in-transit services, said route path determined based on an evaluation of
12 two or more routing scripts selected from the group consisting of: a routing script defined by a
13 sending service, a routing script defined by a recipient service, and one or more routing scripts
14 defined by one or more in-transit services, such that each service is capable of independently
15 affecting said determining of said route path during a logical routing of said message represented
16 by said evaluation.

1 65. (Original) The message routing system of claim 64, wherein said message routing network
2 provides a transport level messaging service.

1 66. (Original) The message routing system of claim 65, wherein said message routing network
2 is implemented on a public network.

1 67. (Original) The message routing system of claim 64, wherein said plurality of services
2 includes a service that provides a data transformation service.

1 68. (Original) The message routing system of claim 64, wherein said plurality of services

2 includes a service that provides a data enrichment service.

1 69. (Original) The message routing system of claim 64, wherein said plurality of services
2 includes a service that provides a cross-reference service.

1 70. (Original) The message routing system of claim 64, wherein said plurality of services
2 ncludes a service that provides a filtering service.

1 71. (Original) The message routing system of claim 64, wherein said plurality of services
2 includes a service that provides a credit scoring service.

1 72. (Original) The message routing system of claim 64, wherein a service is selected by a
2 sending service.

1 73. (Original) The message routing system of claim 64, wherein a service is selected by a
2 recipient service.

1 74. (Original) The message routing system of claim 64, wherein a service is selected by an in-
2 transit service.

1 75. (Original) The message routing system of claim 64, wherein said interface uses the Simple
2 Object Access Protocol.

1 76. (Original) The message routing system of claim 64, wherein a service is selectively
2 applied based on a routing script.

1 77. (Original) The message routing system of claim 76, wherein said routing script maps an
2 invocation of a first service to an invocation of a second service, wherein contexts of said
3 invocations are managed by said message routing network.

1 78. (Original) The message routing system of claim 76, wherein said script defines a
2 procedure for enabling determination of at least part of a routing of a message between services.

1 79. (Original) The message routing system of claim 76, wherein said routing script is defined
2 by one of a sending service, a recipient service, and an in-transit service.

1 80. (Withdrawn) A message routing system, comprising:
2 a message routing network that enables message routing between a plurality of services,
3 wherein each service provides a data operation that is applied to a message traversing said
4 routing, wherein said message routing network generates a bill for at least part of said message
5 routing based on usage of individual services.

1 81. (Withdrawn) The message routing system of claim 80, wherein said bill is generated
2 through an analysis of invocations of said plurality of services.

1 82. (Withdrawn) The message routing system of claim 80, wherein said bill is based on
2 message size.

1 83. (Withdrawn) The message routing system of claim 80, wherein said bill is determined on
2 a per transaction basis.

1 84. (Newly Added) A method for routing messages from one or more sending services to one or
2 more recipient services across a message interchange network, said message interchange network
3 being built on an open platform overlaying a public network, the method comprising:

4 (a) receiving a message from a sending service, said message including a header and at
5 least one of a body and an attachment, and wherein one or more of said body and said attachment
6 includes one or more documents if said sending service is sending one or more documents to said
7 sending service;

8 (b) determining a route path for delivery of said message to at least one of said recipient
9 services, the determining including evaluating at least one of explicit route path instruction and
10 one or more routing scripts, the routing scripts being at least optionally provided by one or more
11 of services selected from a group consisting of said sending services, said recipient services, and
12 in-transit services that may be coupled at least one of the message interchange network and one
13 or more other in-transit services, wherein each service is capable of independently affecting said
14 determining of a route path during a logical routing of said message represented by said
15 evaluating, and wherein two or more of said services may be managed by different
16 organizational entities; and

17 (c) delivering said message to one or more of said in-transit services, wherein one or
18 more of said in-transit services conduct independent processing of said message as said message
19 travels from a sending service to a recipient service, the independent processing being selected
20 from a group including data transformation, content modifying, filtering and service utilization
21 tracking.

1 85. (Newly Added) The method of claim 84, comprising at least two in-transit services, and
2 wherein two or more of said in-transit services are managed by different organizational entities.